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Warm temperatures in April generated above average melt particularly from low and mid-elevations. Mountain precipitation was generally below average in the northern part of the state and near or above average in the southern areas. Many reservoirs have above average storage. Spring and summer streamflows are forecast to be near to a little below average in northern and central basins and from the Big Horn Mountains in Wyoming and well below average in most other areas. Even though considerable melt at low and mid-elevations occurred during April, high elevation snow is still near average in many areas and should sustain streamflows well into the summer. Most areas, except for southwest Montana, should have adequate irrigation water for most of the summer. The lowest areas continue to be in the southwest corner of the state. Surface Water Supply Indexes (SWSI) are generally in the -1.0 to -2.0 range for most basins. Those in the 0 to +2.0 range include the Tobacco, Sun, Marias, Little Bighorn and Tongue River Basins.

SNOWPACK

May 1 snowpack conditions have deteriorated from that reported a month ago and are now below to well below average over much of Montana. Mild temperatures through much of April melted nearly all the low elevation snow and caused significant declines in the mid-elevation snowpacks. Snowpacks at the higher elevations are just beginning to melt and a few stations report a slight increase in snow water content since April 1. West of the Divide, basinwide snowpack conditions are generally below to well below average ranging from about 55 percent of average on the Bitterroot and Upper Clark Fork Basins to about 75 percent of average on the Kootenai. The Flathead Basin reports slightly better conditions ranging from about 70 to 90 percent of average. East of the Divide, basin snowpack conditions generally range from well below average in the southwest to below or slightly below average in the north-central and south-central part of the state. Snowpacks in the Jefferson, Madison and Gallatin Basins range from about 40 percent of average on the Beaverhead to about 65 percent of average on the Gallatin. Conditions in the central and north-central part of the state generally range from about 70 percent of average on the Smith, Sun, Teton and Milk Basins to about 90 percent of average on the Marias. The Snowy Mountains near Lewistown report slightly below average conditions. In the Upper Yellowstone Basin, snowpacks range from about 65 percent of average on the Shields to about 80 percent in the Boulder-Stillwater Headwaters. The Bighorn Mountain Range in northern Wyoming has near to slightly above average snowpack.

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PRECIPITATION

Most areas across the state received below average mountain precipitation during April. Only the Bitterroot, Upper and Lower Yellowstone Basins and central Montana mountain ranges recorded above average precipitation. The Jefferson and Gallatin River Basins had near average precipitation. The remaining areas reported below average moisture for the month. The Sun, Marias, Teton and St. Mary Basins showed only about one-half of average April precipitation.

RESERVOIRS

Above average runoff during April has increased storage levels in many reservoirs. Some are now full or nearly full. Most have average or above average storage with the exception of Lima, Clark Canyon, Deadman's Basin, Bair, Martinsdale and Fort Peck.

STREAMFLOW

Most areas had 1.5 to 2.5 times average runoff in April as a result of snowmelt from warm temperatures. Most streams are forecast to have below average runoff for the remainder of spring and summer months. However, most streams in the Flathead River System, streams with headwaters along the Continental Divide west and northwest of Great Falls, streams flowing from central Montana mountain ranges and the Tongue and Little Bighorn Rivers can expect flows near average. Even though there was significant melt during April, most places report a good high elevation snowpack remaining which should help sustain streamflows later into the season. Irrigation water supplies could be in short supply in some southwest basins by early summer.

SOIL MOISTURE

Recent snowmelt and precipitation have recharged most mountain soils. However, some lower elevations and valley areas are free of snow and are starting to dry. These soils are capable of absorbing some rainfall before any significant amount of runoff is generated.

SURFACE WATER SUPPLY INDEX

The Soil Conservation Service has implemented a program to calculate a Surface Water Supply Index (SWSI) for various basins in Montana. SWSI is a measure of available surface water supplies during spring and summer months. The index ranges from -4.0 to +4.0. A SWSI of -4.0 represents an extremely dry situation, 0 is a near normal situation and +4.0 represents an extremely wet situation. The SWSI provides a scale to evaluate various levels of dryness or wetness and provides a means to compare or evaluate conditions across the state. SWSI considers snowpack, mountain precipitation, soil moisture and reservoir storage.

SWSI SCALE

SWSI	DESIGNATION
+3.0 to +4.0	Extremely wet
+2.0 to +3.0	Moderately wet
+1.0 to +2.0	Slightly wet
-1.0 to +1.0	Near average
-1.0 to -2.0	Slightly dry
-2.0 to -3.0	Moderately dry
-3.0 to -4.0	Extremely dry

SWSI as of May 1, 1990 for the remainder of 1990 irrigation season.

SWSI	BASIN
+0.4	Tobacco River
-1.7	Clark Fork River above Blackfoot River
-0.9	Blackfoot River
-1.2	Clark Fork River above Missoula
-2.2	Bitterroot River
-1.5	Clark Fork River below Bitterroot River
-3.2	Beaverhead River
-1.4	Ruby River
-2.3	Big Hole River
-1.8	Boulder River (Jefferson)
-2.3	Jefferson River
-1.6	Madison River
-1.4	Gallatin River
-1.8	Missouri River above Canyon Ferry
-0.5	Smith River
+1.2	Sun River
+1.5	Marias River
-0.5	Musselshell River
0.0	Milk River
-1.4	Yellowstone River above Livingston
-1.1	Shields River
-0.8	Boulder River (Yellowstone)
-0.4	Stillwater River (Yellowstone)
-1.0	Clarks Fork River
-0.6	Rock-Red Lodge Creek
-1.1	Yellowstone River above Bighorn River
+1.1	Little Bighorn River
+1.7	Tongue River

PEAK FLOWS

Estimates of peak snowmelt flow ranges for unregulated streams are as follows:

May 1, 1990
ESTIMATE OF PEAK SNOWMELT RUNOFF

	Peak Day Range in CFS	1961-85 Avg CFS
COLUMBIA RIVER DRAINAGE		
Blackfoot R nr Bonner	4,000-8,000	9,588
Clark Fk R ab Missoula	7,000-13,000	16,738
Bitterroot R nr Darby	4,000-6,000	6,229
Clark Fk R bl Missoula	18,000-30,000	31,992
Clark Fk R at St. Regis	24,000-35,000	39,984
N FK Flathead nr Columbia Falls	15,000-22,000	21,189
M FK Flathead nr West Glacier	15,000-21,000	22,463
MISSOURI RIVER DRAINAGE		
Big Hole R nr Melrose	4,500-7,000	8,015
Ruby R ab Reservoir	450-800	1,037
Gallatin R nr Gateway	3,500-5,000	5,389
Gallatin R nr Logan	3,500-5,200	5,581
Missouri R at Toston	11,000-17,000	19,042
Marias nr Shelby	5,000-8,000	11,516
S FK Musselshell ab Martinsdale	600-1,000	1,229
YELLOWSTONE RIVER DRAINAGE		
Yellowstone R at Corwin Springs	12,000-17,000	17,532
Yellowstone R at Livingston	14,000-20,000	20,732
Boulder R nr Big Timber	4,000-5,500	5,226
Stillwater R nr Absarokee	4,500-7,000	6,601
Clarks FK nr Belfry	5,000-7,500	7,706
Yellowstone R at Billings	30,000-42,000	42,716

The lower range represents the maximum daily flow that would be expected to occur with little rainfall during the peak snowmelt period. The higher range could be expected with moderate amounts of rain about the same time as maximum snowmelt runoff is occurring.

This year's projections are for below average snowmelt peaks in most of the southern watersheds and near average for northern and central drainages if spring temperatures are near normal.

Based on current snowpack levels, streams tributary to the Kootenai River and streams, west of the Divide with low elevation headwaters, should have peak snowmelt runoff in early May. Major drainages in the Flathead, Blackfoot, Upper Clark Fork and Bitterroot Basins are expected to reach peak snowmelt runoff near the end of May.

East of the Divide, the Beaverhead, Ruby and Madison Rivers should peak near mid-May. The Big Hole, Missouri, most of the drainages west of Great Falls and central Montana streams should see highest levels near the end of May. The Gallatin River is expected to peak in early June and most of the Yellowstone River and tributaries are forecast to have peak flows around mid-June.

KOOTENAI RIVER BASIN in Montana

April mountain precipitation was about 20 percent below average. Considerable melt occurred at low and mid-elevations. Snowpack is currently below average in all Montana drainages and near average in British Columbia. Streamflows in April were about twice average. Forecasts of streamflows for the remaining spring and summer months are for well below average runoff from tributary streams in Montana and near average flows on the main stem of the Kootenai River. Most tributary streams in Montana should reach peak snowmelt runoff in early May at below average levels. The Surface Water Supply Index (SWSI) is +0.4 for the Tobacco River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---		FUTURE		--WETTER--->		
		-----		CHANCE OF EXCEEDING *		-----		
KOOTENAI bl Libby Dam (1,2)	MAY-JUL	4500	5320	5690	105	6060	6880	5438
	MAY-SEP	5420	6390	6830	106	7270	8240	6456
FISHER nr Libby	MAY-JUL	60	90	110	64	130	160	173
	MAY-SEP	66	98	120	63	142	174	189
YAAK nr Troy	MAY-JUL	210	265	305	78	345	400	391
	MAY-SEP	225	285	325	79	365	425	414
KOOTENAI at Leonia (1,2)	MAY-JUL	4960	6070	6570	100	7070	8180	6585
	MAY-SEP	5890	7180	7770	101	8360	9650	7685

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
LAKE KOOCANUSA	5748.0	1912.0	1742.0	1932.0

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
EAST KOOTENAI in B.C.	25	97	96
KOOTENAI MAINTSTEM in MT	29	88	77
TOBACCO	5	88	85
FISHER	6	86	67
YAAK	9	84	72
KOOTENAI in MT	35	88	77
KOOTENAI ab Bonners Ferry	60	92	84

FLATHEAD RIVER BASIN

Mountain precipitation during April was about 25 percent below average. Snowmelt at low and mid-elevations generated streamflows about twice the April average. Current snowpack levels are below to well below average. Streamflow forecasts for the remaining spring and summer months are for a little below average runoff. The North and Middle Forks of the Flathead River are expected to reach peak snowmelt runoff in late May at a little below to near average levels.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---	FUTURE			--WETTER--->		
		-----	CHANCE OF EXCEEDING *			-----		
NF FLATHEAD nr Columbia Falls	MAY-JUL	1140	1300	1400	92	1500	1660	1528
	MAY-SEP	1270	1440	1560	91	1680	1850	1708
MF FLATHEAD nr West Glacier	MAY-JUL	1130	1300	1420	94	1540	1710	1513
	MAY-SEP	1270	1450	1570	94	1690	1870	1669
SF FLATHEAD nr Columbia Fls (1,2)	MAY-JUL	1330	1540	1640	88	1740	1950	1861
	MAY-SEP	1450	1670	1770	89	1870	2090	1998
FLATHEAD at Columbia Falls (2)	MAY-JUL	3810	4200	4460	89	4720	5110	5016
	MAY-SEP	4300	4700	4970	90	5240	5640	5518
SWAN nr Bigfork	MAY-JUL	345	400	435	85	470	525	509
	MAY-SEP	400	460	505	85	550	610	595
FLATHEAD nr Polson (1,2)	MAY-JUL	4380	5020	5230	90	5480	5830	5834
	MAY-SEP	4990	5340	5800	91	6260	6590	6398

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
CAMAS (4)	45.2	31.8	19.9	28.4
MISSION VALLEY (8)	100.0	63.7	40.3	49.7
HUNGRY HORSE	3451.0	2297.0	1527.0	2040.0
FLATHEAD LAKE	1791.0	1206.0	941.0	929.0

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
NORTH FORK FLATHEAD	15	92	89
MIDDLE FORK FLATHEAD	11	99	89
SOUTH FORK FLATHEAD	12	86	79
STILLWATER-WHITEFISH	9	81	70
SWAN	11	88	83
MISSION VALLEY	5	92	85
LITTLE BITTERROOT-ASHLEY	9	49	35
JOCKO	5	70	68
FLATHEAD	52	89	82

UPPER CLARK FORK RIVER BASIN

Snowmelt during April reduced the snowpack levels to about one-half of average and increased streamflows to 1.5 to 2 times the average amounts for April. The mountain precipitation was a little below average for the past month. May through September runoff is forecast to be about 25 to 35 percent below average for most drainages. High elevation snowpack is expected to sustain streamflows through the early part of the irrigation season. Most major streams are expected to reach peak snowmelt runoff near the end of May at below average levels. The Surface Water Supply Index (SWSI) is -1.7 for the Clark Fork River above the Blackfoot River, -0.9 for the Blackfoot River and -1.2 for the Clark Fork River above Missoula.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	<---DRIER--- FUTURE --WETTER---> CHANCE OF EXCEEDING * 90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
MOULTON RES inflow (million gal.)	MAY-JUN	51	84	106	55	128	161	193
	MAY-JUL	59	95	119	55	144	180	218
WARM SPRINGS CK nr Anaconda (2)	MAY-JUL	16.0	22	25	71	29	34	35
	MAY-SEP	21	28	32	73	36	43	44
FLINT CK nr Southern Cross (2)	MAY-JUL	4.1	6.9	8.8	66	10.7	13.5	13.4
	MAY-SEP	4.7	8.1	10.4	63	12.7	16.1	16.4
FLINT CK bl Boulder Ck	MAY-JUL	18.0	29	37	69	45	56	54
	MAY-SEP	24	38	48	69	58	72	70
LOWER WILLOW CK RES inflow	MAY-JUL	3.8	6.3	8.1	65	9.9	12.4	12.5
	MAY-SEP	4.2	7.0	8.9	66	10.8	13.6	13.4
MF ROCK CK nr Philipsburg	MAY-JUL	30	39	45	69	51	60	65
	MAY-SEP	34	44	51	70	58	68	73
NEVADA CK nr Finn	MAY-JUL	4.1	7.6	10.0	59	12.4	15.9	17.0
	MAY-SEP	4.8	8.5	11.0	61	13.5	17.2	18.0
BLACKFOOT nr Bonner	MAY-JUL	375	460	520	68	580	665	760
	MAY-SEP	440	530	590	69	650	745	854
CLARK FORK ab Milltown	MAY-JUL	245	365	450	75	535	655	597
	MAY-SEP	285	430	530	75	630	775	706
CLARK FORK ab Missoula	MAY-JUL	635	835	970	71	1110	1310	1357
	MAY-SEP	735	965	1120	72	1280	1510	1560

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
GEORGETOWN LAKE	31.0	28.4	26.3	24.3
LOWER WILLOW CREEK	4.9	5.0	5.0	3.1
NEVADA CREEK	12.6	12.7	12.2	10.2

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
CLARK FORK ab FLINT CREEK	26	74	56
FLINT CREEK	10	66	48
ROCK CREEK	4	76	64
CLARK FORK ab BLACKFOOT	38	71	54
BLACKFOOT	16	70	62
UPPER CLARK FORK	50	71	57

BITTERROOT RIVER BASIN

Low and mid-elevations had significant melt during April. The higher elevations showed somewhat better snowpack levels. Overall, the snowpack is currently well below average. During April, the mountain precipitation was about 135 percent of average. Runoff during April was about twice average. Streamflows for the remainder of the summer are forecast to be about 20 to 30 percent below average. Irrigation supplies could become short by mid-summer. The Bitterroot River near Darby is expected to reach peak snowmelt runoff near the end of May at a little below to near average level. The Surface Water Supply Index (SWSI) is -2.2 for the Bitterroot River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---		FUTURE		--WETTER--->		
		-----		CHANCE OF EXCEEDING *		-----		
WF BITTERROOT nr Conner (2)	MAY-JUL	75	94	108	80	122	142	135
	MAY-SEP	84	107	123	79	139	162	156
BITTERROOT nr Darby	MAY-JUL	265	335	380	81	425	495	470
	MAY-SEP	305	375	425	82	475	545	519
ROCK CK nr Darby (2)	MAY-JUL	44	51	56	79	61	68	71
	MAY-SEP	47	55	60	80	65	73	75
SKALKAHO CK nr Hamilton	MAY-JUL	29	33	36	75	39	43	45
	MAY-SEP	34	38	41	72	44	48	52
BURNT FORK CK nr Stevensville (2)	MAY-JUL	12.0	17.0	21	70	25	30	28
	MAY-SEP	16.0	22	25	71	29	34	34
BITTERROOT at Missoula	MAY-JUL	720	835	915	74	995	1110	1239
	MAY-SEP	805	935	1020	75	1110	1240	1354

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

STREAMFLOW FORECASTS

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
PAINTED ROCKS LAKE	31.7	17.0	8.1	21.0
COMO	34.9	27.5	24.2	19.4

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
WEST FORK BITTERROOT	8	61	48
EAST SIDE BITTERROOT	5	80	63
WEST SIDE BITTERROOT	9	77	57
BITTERROOT	22	73	55

LOWER CLARK FORK RIVER BASIN

Mountain precipitation was about 15 percent below average in April. Snowpacks at low and mid-elevations had significant melt. Overall, the snowpack is about 30 percent below average. This melt did generate above average streamflows for April. The May through September runoff is forecast to be 20 to 30 percent below average on most drainages. The Clark Fork is expected to reach peak snowmelt runoff near the end of May at a below average level. The Surface Water Supply Index (SWSI) in -1.2 for the Clark Fork River above Missoula, -2.2 for the Bitterroot River and -1.5 for the Clark Fork River below Missoula.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---		FUTURE			---WETTER--->	
		-----		CHANCE OF EXCEEDING *			-----	
CLARK FORK ab Missoula	MAY-JUL	635	835	970	71	1110	1310	1357
	MAY-SEP	735	965	1120	72	1280	1510	1560
CLARK FORK bl Missoula	MAY-JUL	1430	1700	1890	73	2080	2350	2586
	MAY-SEP	1620	1930	2140	73	2350	2660	2914
CLARK FORK at St. Regis (1)	MAY-JUL	1520	2120	2390	71	2660	3260	3379
	MAY-SEP	1770	2440	2750	72	3060	3730	3809
CLARK FORK nr Plains (1,2)	MAY-JUL	5770	7120	7730	81	8340	9690	9541
	MAY-SEP	6590	8090	8770	83	9450	11000	10621
THOMPSON nr Thompson Falls	MAY-JUL	83	109	126	70	143	169	180
	MAY-SEP	102	128	146	70	164	190	209
PROSPECT CK at Thompson Falls	MAY-JUL	50	61	69	68	77	88	101
	MAY-SEP	55	67	75	68	83	95	110
CLARK FORK at Whitehorse Rpds (1,	MAY-JUL	6520	7830	8420	80	9010	10300	10538
	MAY-SEP	7540	8900	9510	81	10100	11500	11764

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

STREAMFLOW FORECASTS

FORECAST POINT	PERIOD	VOLUME (KAF)	10% (KAF)	30% (KAF)	50% (KAF)	70% (KAF)	90% (KAF)
CLARK FORK abv Plains(a)	MAY-JUL	435	635	770	905	1110	1310
	MAY-SEP	735	965	1120	1275	1490	1650
CLARK FORK bl Missoula	MAY-JUL	1430	1700	1890	2075	2360	2580
	MAY-SEP	1820	1930	2140	2345	2630	2810
CLARK FORK at St. Regis (1)	MAY-JUL	1520	2120	2390	2660	3040	3420
	MAY-SEP	1770	2440	2750	3060	3520	3890
CLARK FORK at Plains (1,3)	MAY-JUL	3270	4120	4730	5340	6240	6940
	MAY-SEP	4300	5230	5970	6710	7760	8600
THOMPSON at Thompson Falls	MAY-JUL	81	109	128	147	175	197
	MAY-SEP	102	129	150	170	196	219
FISHTRAP CK at Thompson Falls	MAY-JUL	30	41	49	57	68	78
	MAY-SEP	33	47	57	66	79	90
CLARK FORK at Cabinet Gorge (1,	MAY-JUL	4520	5830	6720	7610	8870	9910
	MAY-SEP	5300	6900	8010	9110	10700	11950

* 10%, 70%, and 90% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The volume listed under the 10% and 90% Chances of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
NOXON RAPIDS	335.0	317.0	318.2	186.3

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER CLARK FORK	50	71	57
BITTERROOT	22	73	55
LOWER CLARK FORK	26	90	71
CLARK FORK TOTAL	91	80	62
FLATHEAD	41	91	86
PEND OREILLE	137	84	70

JEFFERSON RIVER BASIN

Currently, the snowpack is about one-half average. Mountain precipitation was near average for the past month but warm temperatures depleted the snowpack. April runoff was generally near to a little above average but was a little below average in the Beaverhead due to the lack of low elevation snow. Reservoir storage levels have increased but are still below average in Clark Canyon and Lima. May through September runoff is forecast to be well below average on most drainages. Most major streams are expected to reach peak snowmelt runoff soon after mid-May except for the Big Hole River which should peak near the end of May. All peak flows should be at below average levels. The Surface Water Supply Index (SWSI) is -3.2 for the Beaverhead River, -1.4 for the Ruby River, -2.3 for the Big Hole River, -1.8 for the Boulder River and -2.3 for the Jefferson River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	<---DRIER--- FUTURE --WETTER---> CHANCE OF EXCEEDING * 90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
RED ROCK RIVER near Monida (2)	MAY-JUL	10.0	30	44	55	58	78	80
	MAY-SEP	11.0	34	49	55	65	87	89
BEAVERHEAD RIVER near Grant (2)	MAY-JUL	3.0	38	61	56	84	119	109
	MAY-SEP	4.0	46	74	56	102	144	133
BEAVERHEAD RIVER at Barratts (2)	MAY-JUL	22	59	84	59	109	146	143
	MAY-SEP	31	74	103	59	132	175	175
RUBY RIVER near Alder	MAY-JUL	34	46	54	72	62	74	75
	MAY-SEP	42	56	66	72	76	90	92
BIG HOLE RIVER near Melrose	MAY-JUL	250	340	400	65	460	550	612
	MAY-SEP	275	375	440	65	505	605	673
BOULDER RIVER near Boulder	MAY-JUL	38	52	62	78	72	86	80
	MAY-SEP	41	56	67	77	78	93	87
WILLOW CREEK near Harrison	MAY-JUL	4.1	8.8	12.0	74	15.2	19.9	16.2
	MAY-SEP	5.3	10.5	14.0	75	17.5	23	18.6
JEFFERSON RIVER near Three Forks	MAY-JUL	100	330	485	58	640	870	839
	MAY-SEP	130	380	550	58	720	970	954

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
LIMA	84.0	46.0	32.1	56.5
CLARK CANYON	255.6	108.3	121.0	163.2
RUBY RIVER	38.8	39.8	36.5	35.6

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
BEAVERHEAD	32	47	41
RUBY	14	69	53
BIGHOLE	28	69	55
BOULDER	14	78	51
JEFFERSON	71	60	48

MADISON RIVER BASIN

April mountain precipitation was about 10 percent below average. Due to warm temperatures, significant snowmelt occurred during the past month and snowpack levels are now well below average. April runoff was about 1.5 times average. Forecasts for May through September runoff are about 25 percent below average. The peak snowmelt runoff into Hebgen Lake is expected to occur soon after mid-May at a below average level. High elevation streams flowing into the Madison River, downstream from Hebgen Lake, should see peak snowmelt runoff in late May or early June. The Surface Water Supply Index (SWSI) is -1.6 for the Madison River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---		FUTURE		--WETTER--->		
		-----		CHANCE OF EXCEEDING *		-----		
MADISON RIVER near Grayling (2)	MAY-JUL	215	230	245	74	260	275	333
	MAY-SEP	280	305	320	74	335	360	433
MADISON RIVER near McAllister (2)	MAY-JUL	365	400	425	74	450	485	577
	MAY-SEP	470	520	550	73	580	630	753

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
ENNIS LAKE	41.0	35.1	32.5	35.7
HEBGEN LAKE	377.5	312.0	259.7	236.2

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
MADISON above HEBGEN	11	44	48
LOWER MADISON	21	74	60
MADISON	32	61	56

GALLATIN RIVER BASIN

April mountain precipitation was near average. Warm temperatures resulted in considerable snowmelt and above average runoff in April. Currently, snowpack levels are 25 to 35 percent below average. However, higher elevations have much better snowpack which should sustain streamflows well into the irrigation season. May through September runoff is forecast to be about 20 percent less than average. The Gallatin River is expected to reach peak snowmelt runoff in early June at a little below average level. The Surface Water Supply Index (SWSI) is -1.4 for the Gallatin River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---	FUTURE			--WETTER--->		
		-----	CHANCE	OF	EXCEEDING	*	-----	
GALLATIN RIVER near Gateway	MAY-JUL	295	325	340	79	355	385	430
	MAY-SEP	355	380	400	78	420	445	510
E & W FK. HYALITE CR. nr Bozeman	MAY-SEP	17.0	20	21	78	23	25	27
HYALITE CREEK near Bozeman (2)	MAY-JUL	22	25	27	77	29	32	35
	MAY-SEP	27	30	32	78	34	37	41
GALLATIN RIVER at Logan	MAY-JUL	255	320	360	79	400	465	458
	MAY-SEP	315	380	425	78	470	535	546

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
MIDDLE CREEK	8.0	6.1	5.0	4.4

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER GALLATIN	13	92	73
EAST GALLATIN	12	87	64
GALLATIN	22	86	67

MAINSTEM MISSOURI RIVER BASIN

The mountain precipitation was about 30 percent less than average in April. There was considerable melt at low and mid-elevations and snowpack levels are currently below average. However, snow at the higher elevations is much better and should provide good sustained flow well into the irrigation season. During April runoff was near to a little below average. Forecasts of streamflows for the May through September period vary from a little below average to a little above average runoff for streams flowing into the Missouri River and below average for the Missouri River. Canyon Ferry storage is near average. The peak snowmelt runoff into Canyon Ferry Reservoir is expected to be near the end of May at a little below average level. The Surface Water Supply Index (SWSI) is -1.8 for the Missouri River above Canyon Ferry.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---	FUTURE	--WETTER--->				
		-----	CHANCE OF EXCEEDING *	-----				
MISSOURI RIVER at Toston (2)	MAY-JUL	870	1000	1280	68	1590	1720	1890
	MAY-SEP	1030	1180	1520	68	1870	2030	2230
PRICKLY PEAR CREEK nr Clancy	MAY-JUL	4.6	13.1	18.9	82	25	33	23
	MAY-SEP	7.0	16.0	23	82	30	39	28
SUN RIVER at Gibson Dam (2)	MAY-JUL	350	410	450	97	490	550	462
	MAY-SEP	395	460	500	98	540	605	511
MISSOURI RIVER at Fort Benton (2)	MAY-JUL	1470	1610	1990	68	2520	2750	2930
	MAY-SEP	1730	1900	2330	68	2970	3240	3450
MARIAS RIVER near Shelby (2)	MAY-JUL	270	310	400	97	525	580	412
	MAY-SEP	285	325	425	97	560	615	436
MISSOURI RIVER at Virgelle (2)	MAY-JUL	1780	1980	2480	74	3220	3520	3350
	MAY-SEP	2070	2300	2890	74	3740	4100	3900
MISSOURI RIVER near Landusky (2)	MAY-JUL	1970	2190	2740	75	3540	3910	3650
	MAY-SEP	2290	2540	3170	75	4110	4540	4240
MISSOURI RIVER below Fort Peck (2)	MAY-JUL	1820	2060	2630	74	3450	3840	3560
	MAY-SEP	2090	2380	3020	74	3980	4430	4100
LAKE SAKAKAWEA Inflow (2)	MAY-JUL	5620	6260	7740	84	9580	10400	9210
	MAY-SEP	6330	7060	8770	84	10800	11700	10380

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

STREAMFLOW FORECASTS

FORECAST POINT	PERIOD	CHANCE OF EXCEEDING *				FUTURE WEATHER	
		90% (KAF)	70% (KAF)	50% (KAF)	30% (KAF)	10% (KAF)	25YR (KAF)
MISSOURI RIVER at Toston (2)	MAY-JUL	870	1000	1240	1590	1720	1870
	MAY-SEP	1030	1180	1520	1870	2030	2210
PRICKLY PEAR CREEK nr Clancy	MAY-JUL	6.4	11.1	16.9	23	27	29
	MAY-SEP	7.0	12.0	17.6	23	27	29
RUM RIVER at Gibson Dam (2)	MAY-JUL	320	410	490	570	620	662
	MAY-SEP	393	490	590	690	760	811
MISSOURI RIVER at Fort Benton (2)	MAY-JUL	1470	1610	1990	2370	2750	2990
	MAY-SEP	1730	1900	2350	2800	3240	3490
MARIAS RIVER near Shelby (2)	MAY-JUL	270	310	400	490	580	612
	MAY-SEP	345	425	525	625	715	756
MISSOURI RIVER at Virgelle (2)	MAY-JUL	1780	1980	2460	2940	3320	3590
	MAY-SEP	2010	2300	2850	3400	4100	4400
MISSOURI RIVER near Landusky (2)	MAY-JUL	1870	2190	2740	3290	3710	3950
	MAY-SEP	2290	2640	3170	3700	4110	4340
MISSOURI RIVER below Rock Creek (2)	MAY-JUL	1800	2000	2630	3260	3660	3940
	MAY-SEP	2070	2380	3020	3660	4060	4300
LAKE SAKAKAWEA Inflow (2)	MAY-JUL	3820	6260	7740	9220	10210	10810
	MAY-SEP	4530	7060	8770	10480	11720	12540

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volume in the table.

The average is computed for the 1961-1990 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
CANYON FERRY LAKE	2043.0	1440.0	1325.0	1505.0
HELENA VALLEY	9.2	7.0	8.2	7.5
LAKE HELENA	10.4	10.7	10.7	10.0
HAUSER & HELENA	61.9	62.5	62.4	60.0
HOLTER LAKE	81.9	79.8	80.5	72.6
FORT PECK LAKE (MAF)	18.9	11.4	12.6	15.3

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
MISSOURI HEADWATERS	109	63	52
WEST SIDE MISSOURI	12	73	57
SMITH-BELT	11	87	71
MAINSTEM MISSOURI	23	81	65
SUN-TETON-MARIAS	18	89	84
JUDITH-MUSSELSHELL	17	99	81
MISSOURI above FORT PECK	152	70	59
MILK RIVER	11	75	68
MISSOURI in MONTANA	161	70	59
MISSOURI blw YELLOWSTONE	271	84	67

SMITH-JUDITH-MUSSELSHELL RIVER BASINS

April mountain precipitation was about 20 percent above average. Snowmelt reduced low and mid-elevation snow. Snowpack is currently below average, however, snow at the higher elevations is near average. Runoff during April was near average. Forecasts for the remaining spring and summer months are for a little below to a little above average streamflows. Peak snowmelt runoff is expected to occur near the end of May at near to a little below average levels. Storage in irrigation reservoirs is generally below average but some have average or above average storage. The Surface Water Supply Index (SWSI) is -0.5 for the Smith River and -0.5 for the Musselshell River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	<---DRIER--- FUTURE --WETTER---> CHANCE OF EXCEEDING * 90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
SMITH RIVER nr Ft. Logan	MAY-JUL	21	41	54	96	68	88	56
	MAY-SEP	31	52	66	97	80	101	68
SHEEP CREEK nr White Sulphur Sprg	MAY-JUL	14.1	15.2	16.0	94	16.8	17.9	17.1
	MAY-SEP	16.5	17.7	18.5	93	19.3	21	20
N.F. MUSSELSHELL near Delphine	MAY-JUL	2.8	3.3	3.7	93	4.1	4.6	4.0
	MAY-SEP	3.4	4.0	4.5	92	5.0	5.6	4.9
S.F. MUSSELSHELL above Martinsdale	MAY-JUL	17.0	35	47	92	59	77	51
	MAY-SEP	20	38	51	93	64	83	55

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
SMITH RIVER	10.6	8.5	5.7	9.4
NEWLAN CREEK	12.4	9.8	8.0	9.7
BAIR	7.0	6.0	3.0	6.0
MARTINSDALE	23.1	20.5	5.3	12.3
DEADMAN'S BASIN	72.2	38.6	26.8	56.6

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
SMITH-BELT	11	87	71
JUDITH-MUSSELSHELL	17	99	81

SUN-TETON-MARIAS RIVER BASINS

Mountain precipitation was about one-half average for April. Significant snowmelt occurred at the low and mid-elevations which produced nearly twice average April runoff. Currently, snowpacks are below average but the high elevations still have near average amounts of water stored in the snow. May through September runoff is forecast to be near average to a little below average on most drainages. Peak snowmelt runoff is expected to occur near the end of May at near to a little below average levels. Reservoir storage is presently above average. The Surface Water Supply Index (SWSI) is +1.2 for the Sun River and +1.5 for the Marias River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---		FUTURE		--WETTER--->		
		-----		CHANCE OF EXCEEDING *		-----		
SUN RIVER at Gibson Dam (2)	MAY-JUL	350	410	450	97	490	550	462
	MAY-SEP	395	460	500	98	540	605	511
TWO MEDICINE CREEK near Browning	MAY-JUL	131	168	193	98	220	255	197
	MAY-SEP	143	180	205	98	230	265	210
BADGER CREEK near Browning (2)	MAY-JUL	68	85	97	100	109	126	97
	MAY-SEP	84	102	114	100	126	145	114
SWIFT RESERVOIR INFLOW nr Dupuyer	MAY-JUL	39	53	62	97	71	85	64
	MAY-SEP	50	64	74	97	84	98	76
DUPUYER CREEK near Valier	MAY-JUL	0.1	6.7	13.0	90	19.3	29	14.5
	MAY-SEP	0.2	8.0	14.7	90	21	31	16.3
CUT BANK CREEK at Cut Bank	MAY-JUL	57	67	73	92	79	89	79
	MAY-SEP	66	75	81	92	87	96	88
MARIAS RIVER near Shelby (2)	MAY-JUL	270	310	400	97	525	580	412
	MAY-SEP	285	325	425	97	560	615	436

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
GIBSON	99.1	64.5	79.6	53.9
PISHKUN	32.0	22.8	19.8	26.6
WILLOW CREEK	32.2	31.6	25.1	23.7
LOWER TWO MEDICINE LAKE	11.9	12.1	12.5	10.6
FOUR HORNS LAKE	19.2	13.2	14.0	12.8
SWIFT	30.0	20.5	12.2	16.1
LAKE FRANCES	112.0	102.3	64.5	74.6
LAKE ELWELL (TIBER)	1347.0	794.9	739.9	582.5

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
SUN-TETON	12	76	69
MARIAS	7	99	93
SUN-TETON-MARIAS	18	89	84

ST. MARY and MILK RIVER BASINS

Mountain precipitation for April was about 55 percent of average. Melt has nearly depleted the snowpacks in the Bear Paw Mountains and lowered low and mid-elevation snowpacks in the Milk and St. Mary Headwaters. However, high elevation snowpack is still near average. Runoff in April was a little below average on the Milk River but well above average on the St. Mary River as a result of snowmelt. Storage in irrigation reservoirs is generally near or above average. May through September runoff is forecast to be a little below to a little above average on most drainages. The Surface Water Supply Index (SWSI) is 0.0 for the Milk River Project.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	<---DRIER--- FUTURE --WETTER---> CHANCE OF EXCEEDING * 90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
SWIFTCURRENT CREEK at Sherburne (	MAY-JUL	82	88	91	90	95	100	101
	MAY-SEP	98	105	109	92	113	120	119
ST. MARY RIVER near Babb (2)	MAY-JUL	295	325	340	89	360	385	383
	MAY-SEP	350	385	405	89	425	460	453
MILK RIVER at Eastern Crossing	MAY-SEP	34	39	47	92	74	85	51
MILK RIVER at Eastern Crossing (2)	MAY-SEP	215	220	225	110	245	250	204

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

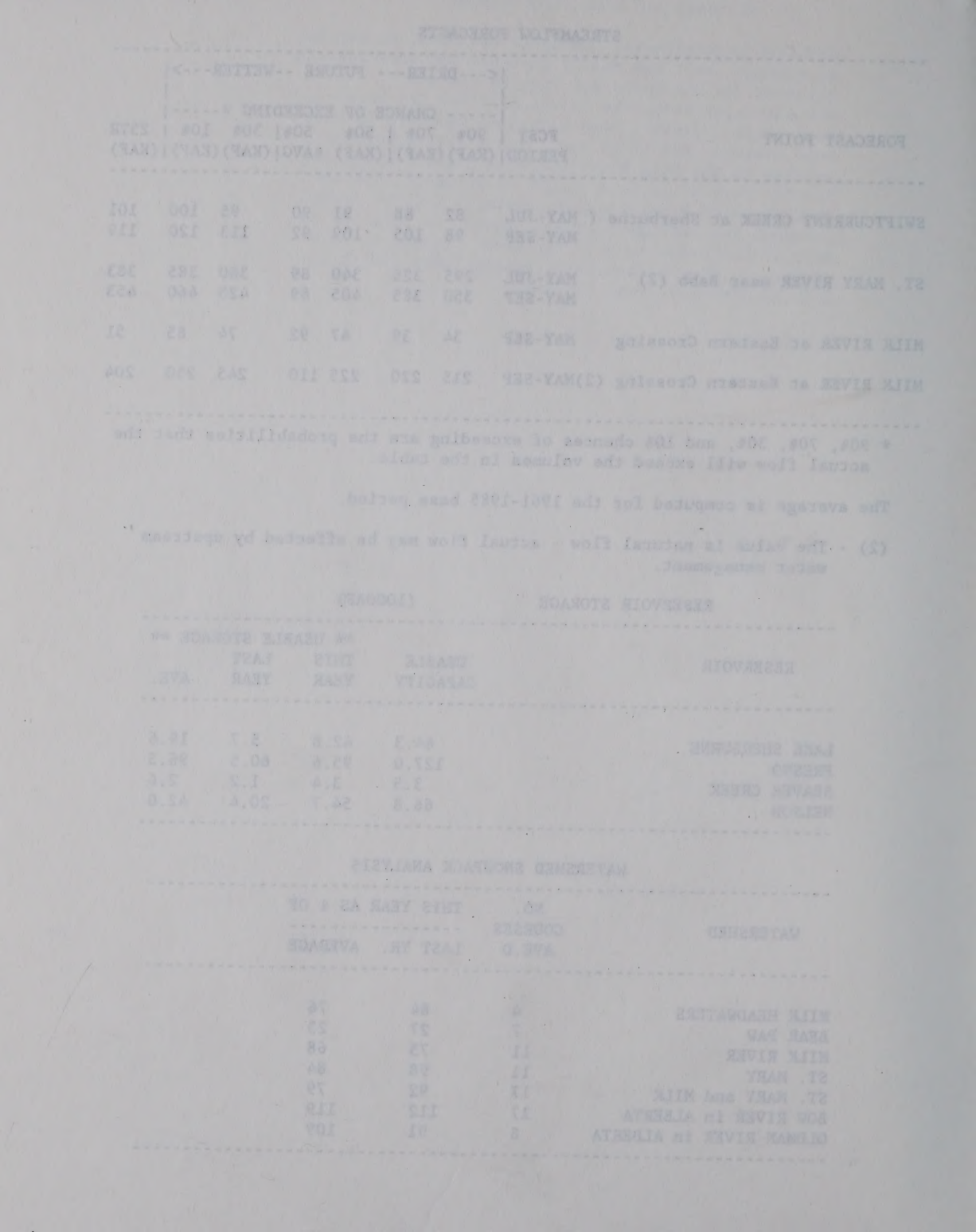
(2) - The value is natural flow - actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
LAKE SHERBURNE	64.3	42.8	5.7	19.6
FRESNO	127.0	95.6	60.5	96.5
BEAVER CREEK	3.5	3.4	1.2	2.6
NELSON	66.8	54.7	20.4	42.0

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
MILK HEADWATERS	4	84	76
BEAR PAW	7	27	23
MILK RIVER	11	75	68
ST. MARY	11	98	84
ST. MARY and MILK	17	92	79
BOW RIVER in ALBERTA	17	112	119
OLDMAN RIVER in ALBERTA	8	91	109



UPPER YELLOWSTONE RIVER BASIN

Mountain precipitation was about 125 percent of average during April. Warm temperatures created significant melt at low and mid-elevations. Current snowpacks are 25 to 35 percent below average. However, high elevations generally have near to a little below average snowpack which will help hold up streamflows into the summer. During April, runoff was generally 1.5 to 2 times average as a result of snowmelt and rainfall. Runoff for the remaining spring and summer months is forecast to vary from 10 to 20 percent below average on most streams. Peak snowmelt runoff is expected to occur around mid-June on most drainages at a little below to near average levels. The Surface Water Supply Index (SWSI) is -1.4 for the Yellowstone River above Livingston, -1.1 for the Shields River, -0.8 for the Boulder River, -0.4 for the Stillwater River, -1.0 for the Clarks Fork River, -0.6 for Rock-Red Lodge Creek and -1.1 for the Yellowstone River above the Bighorn River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	<---DRIER--- FUTURE --WETTER---> CHANCE OF EXCEEDING * 90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
YELLOWSTONE at Lake Outlet	MAY-JUL	355	405	440	79	475	525	555
	MAY-SEP	525	585	625	80	665	725	784
YELLOWSTONE at Corwin Springs	MAY-JUL	1100	1210	1280	82	1350	1460	1570
	MAY-SEP	1350	1470	1560	82	1650	1770	1910
YELLOWSTONE at Livingston	MAY-JUL	1280	1410	1490	82	1570	1700	1810
	MAY-SEP	1590	1730	1830	82	1930	2070	2220
SHIELDS RIVER near Livingston	MAY-JUL	53	93	120	86	147	187	140
	MAY-SEP	66	108	136	86	164	205	159
BOULDER RIVER at Big Timber	MAY-JUL	235	275	300	88	325	365	340
	MAY-SEP	260	300	330	89	360	400	372
WEST ROSEBUD CREEK near Roscoe	MAY-JUL	44	51	56	89	61	68	63
	MAY-SEP	60	67	72	89	77	84	81
STILLWATER RIVER nr Absarokee (2)	MAY-JUL	300	370	415	83	460	530	501
	MAY-SEP	390	455	500	83	545	610	602
CLARKS FORK RIVER near Belfry	MAY-JUL	350	395	430	83	465	510	519
	MAY-SEP	405	455	485	83	515	565	582
RED LODGE CREEK near Boyd (2)	MAY-JUL	8.0	22	31	76	40	54	41
	MAY-SEP	15.0	29	38	75	47	61	51
YELLOWSTONE RIVER at Billings (2)	MAY-JUL	2470	2610	2890	83	3170	3310	3480
	MAY-SEP	2950	3120	3450	83	3790	3950	4160

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

STREAMFLOW FORECASTS

FORECAST POINT	PERIOD	<---DRIER---			NORMAL			---WETTER--->	
		CHANCE OF EXCEEDING *							
		90%	70%	50%	30%	10%	AVG	(KAF)	(%AF)
YELLOWSTONE at Lake Outlet	MAY-JUL	353	405	460	70	615	523	525	
	MAY-SEP	525	585	655	80	865	725	790	
YELLOWSTONE at Corwin Springs	MAY-JUL	1190	1210	1280	82	1350	1460	1570	
	MAY-SEP	1255	1270	1340	82	1650	1770	1910	
YELLOWSTONE at Livingston	MAY-JUL	1280	1410	1620	82	1770	1700	1810	
	MAY-SEP	1390	1570	1830	82	1930	2070	2220	
SHIELDS RIVER near Dep.Grove	MAY-JUL	73	93	120	86	147	147	160	
	MAY-SEP	85	108	136	86	164	165	179	
BOULDER RIVER at Big Timber	MAY-JUL	223	273	320	84	375	383	340	
	MAY-SEP	250	300	370	89	360	600	372	
WEST ROSEBUD CREEK near Roscoe	MAY-JUL	44	51	54	85	41	48	63	
	MAY-SEP	60	67	72	89	77	84	94	
STILLWATER RIVER nr Absarokee (3)	MAY-JUL	300	310	314	83	460	330	301	
	MAY-SEP	390	455	500	83	545	610	602	
CLARKS FORK RIVER near Belfry	MAY-JUL	120	345	430	81	485	510	519	
	MAY-SEP	603	455	683	83	515	565	552	
RED LODGE CREEK near Bovd (2)	MAY-JUL	8.0	22	31	76	40	36	41	
	MAY-SEP	15.0	29	38	73	47	61	51	
YELLOWSTONE RIVER at Billings (3)	MAY-JUL	3470	2810	2850	83	3170	3310	3480	
	MAY-SEP	2350	3120	3450	83	3740	3950	4190	

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(3) - The value is Reveral flow - Actual flow may be affected by upstream water management

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
MYSTIC LAKE	21.0	0.8	0.9	2.0
COONEY	27.4	21.6	22.9	18.6

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
YELLOWSTONE ab LIVINGSTON	24	79	73
SHIELDS	10	74	64
BOULDER-STILLWATER	9	90	79
CLARK'S FORK-ROCK CREEK	20	87	74
YELLOWSTONE above BIGHORN	55	82	71

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVE.
MYSTIC LAKE	21.0	0.6	0.9	2.0
COONEY	27.4	21.5	22.9	18.5

LOWER YELLOWSTONE RIVER BASIN

April mountain precipitation in the Bighorn Mountains was about 140 percent of average. Snowpacks are below average in the upper reaches of the Bighorn River Drainage but near to a little above average in the Bighorn Mountains. The May through September runoff is forecast to be below average on the Bighorn River and Yellowstone River but near to a little above average on streams flowing out of the Bighorn Mountains. The Surface Water Supply Index (SWSI) is -1.1 for the Yellowstone River above the Bighorn River, +1.1 for the Little Bighorn River and +1.7 for the Tongue River.

STREAMFLOW FORECASTS

FORECAST POINT	FCST PERIOD	90% (KAF)	70% (KAF)	50% (KAF)	50% %AVG	30% (KAF)	10% (KAF)	25YR (KAF)
		<---DRIER---		FUTURE		--WETTER--->		
		-----		CHANCE OF EXCEEDING *		-----		
YELLOWSTONE RIVER at Billings (2)	MAY-JUL	2470	2610	2890	83	3170	3310	3480
	MAY-SEP	2950	3120	3450	83	3790	3950	4160
BIG HORN RIVER nr St. Xavier (2)	MAY-JUL	910	1020	1280	80	1580	1710	1600
	MAY-SEP	1020	1150	1440	80	1770	1920	1790
LITTLE BIGHORN at Hardin	MAY-JUL	86	101	135	108	173	189	125
	MAY-SEP	99	117	154	107	199	215	144
TONGUE RIVER near Decker (2)	MAY-JUL	102	142	230	106	330	375	218
	MAY-SEP	114	157	250	103	365	415	242
YELLOWSTONE RIVER at Miles City (	MAY-JUL	3400	3710	4380	85	5100	5410	5150
	MAY-SEP	3970	4330	5130	85	5960	6320	6020
POWDER RIVER near Locate	MAY-JUL	82	124	220	94	350	400	234
	MAY-SEP	90	137	245	95	385	445	258
YELLOWSTONE RIVER near Sidney (2)	MAY-JUL	3590	3930	4790	84	5700	6100	5700
	MAY-SEP	4180	4580	5580	84	6640	7100	6640

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

STREAMFLOW FORECASTS

FORECAST POINT	PERIOD	90%	70%	50%	30%	10%	2 YR AVG (KAF)
YELLOWSTONE RIVER at Billings (2)	MAY-JUL	2470	2610	1890	85	3170	3310	3980
	MAY-SEP	2950	3120	3430	83	3720	3950	4160
RED ROCK RIVER nr St. Xavier (2)	MAY-JUL	910	1020	1280	80	1580	1710	1900
	MAY-SEP	1020	1130	1440	80	1770	1820	1790
LITTLE BIGHORN at Hardin	MAY-JUL	84	101	135	108	173	195	215
	MAY-SEP	99	117	154	107	199	215	164
TONGUE RIVER near Decker (2)	MAY-JUL	102	142	230	106	330	375	218
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YELLOWSTONE RIVER near Sidney (2)	MAY-JUL	3350	3930	5790	84	7700	8300	5700
	MAY-SEP	4180	4580	5580	84	6660	7100	6640

+ 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(2) - The value is natural flow -- actual flow may be affected by upstream water management.

RESERVOIR STORAGE (1000AF)

RESERVOIR	USABLE CAPACITY	** USABLE STORAGE ** THIS YEAR	LAST YEAR	AVE.
BIGHORN LAKE	1356.0	707.7	653.5	681.2
TONGUE RIVER	68.0	33.6	35.4	36.7

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR.	AVERAGE
BIG HORN (Wyoming)	60	113	80
LITTLE BIGHORN	5	162	106
TONGUE RIVER (Wyoming)	15	155	104
POWDER RIVER (Wyoming)	14	204	105
YELLOWSTONE RIVER	125	103	78